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From warfare to wireless in Macedonia

A US-funded project to build a wireless nation will ease the country's interethnic conflicts.

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SKOPJE, MACEDONIA - Just five years ago, Macedonia was the flash point of the former Yugoslavia's last conflict, when ethnic Albanian rebels clashed with Macedonian security forces for several months before signing a peace agreement in August 2001.

Now Macedonia may be the world's first all-wireless Internet country, where Internet access is available to virtually anyone with a wireless-enabled computer. Project associates say it's helping schoolchildren, breaking up the Macedonian telecom monopoly, and paving the way for Internet-based businesses to start replacing Macedonia's outdated textile giants and factories.

Improving the economy could also help the country move on from the 2001 conflict while providing a role model for the region's many war-torn nations.

"Prosperity takes precedent over interethnic rivalries," says Teresa Albor, a spokeswoman here in the capital for the United States Agency for International Development (USAID), which invested $3.9 million in the project.

USAID had previously funded local-area networks for Macedonian schools, which were already equipped with 6,000 computers donated by the Chinese government. After that foundation had been laid, USAID funded and founded the Macedonia Connects Project, which hired a local company - On.net - to provide wireless access for all of Macedonia's schools.

By September 2005, the project was completed, establishing a "backbone" of wireless access for the whole country. From that main network, On.net uses Strix Systems radio-mesh technology to create Wi-Fi "clouds" around towns and villages throughout the country. Anyone with a laptop can buy a card with wireless credits, click on "find wireless networks," and get online.

"People will be able to view the various wireless solutions within any given spot in Skopje or Bitola and connect to the Internet just as you might in New York City or Tempe, Ariz.," says Macedonia Connects project director Glenn Strachan.

Wireless access is available to about 95 percent of Macedonians, even those living in remote sheepherding mountain villages where people don't have phones. But because of a lack of computers, funds (the average annual income is $2,350), or interest, only 8 percent of Macedonians have Internet access.

The first Macedonian school to go wireless was an all-Roma school in Sutka, just outside

Skopje. Sutka, where rows of metal-roofed shanties are separated from stone mansions by only a muddy lane, is thought to be the largest Roma (sometimes referred to as Gypsy) community in the country. School director Saip Iseni says the Roma benefited from the education minister's wariness about whether to connect an Albanian or Macedonian school first. After civil war nearly divided the two ethnic groups, the minister could be accused by one community or the other of playing favorites.

"So they came to us, so no one would get angry," Mr. Iseni says, laughing.

Joking aside, tensions still exist between Macedonia's ethnic Albanians and Macedonian Slavs, who live in their own villages and often parts of towns. Children go to separate schools, or to the same school in different shifts.

Aleksandar Bilbilov, applications director for Macedonia Connects, says the project helps Macedonia's growing IT businesses, like Web design and animation for Western companies.

"If you're doing some animation for Coca-Cola, you can't say to them, 'Let me burn this on CD and FedEx it to you' - it doesn't work that way. You need a high bandwidth to send it," he says, emphasizing the importance of wireless access in the information age.

Milivoje Gjorgjevic, production manager for the Skopje-based company 3XFX, says On.net has been invaluable for offering such high bandwidths. The firm has done effects and animation for Hilton Hotels commercials and the Steven Spielberg film "The Aviator."

"It's easy in Paris or London to get a super nice connection but in our country it's not that easy," he says. "It was impossible to get that connection three years ago - even today we cannot go to the telecom and ask for this type of connection."

And On.net is creating some competition. At about $25, On.net's basic ADSL package - a fast Internet connection over existing phone lines - is half the price of the same package from the state telecom giant Maktel.

Mr. Strachan says he hopes On.net's work can be a blueprint for other countries that, like Macedonia, are small and geographically isolated, but have relatively good telephone, road, and electricity infrastructure. A delegation from Montenegro visited in March, and Strachan has been to Georgia to talk to government ministries about connecting some 2,700 schools there.

People involved with the project see it as a way for Macedonia's economy to jump out of what development workers call the "transition" phase, from a planned economy to a market economy. But despite the advantages for schoolchildren - of all ethnic groups - and IT businesses, those who lack the means or desire to acquire computers are left behind.

"I've got a 26-year-old son at home - he's young and intelligent, and he doesn't have a computer, though he'd like to have one," says Rade, a gray-haired man smoking with his friends at Skopje's Biser marketplace. Selling flowers a few feet away, recent high school graduate Aleksandar says, "I'm not interested in that kind of stuff. I'd rather have a motorcycle or a car."

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